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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

State: Hawaiian Is.

DESCRIPTIVE REPORT

Topographic } Sheet No. 30 5318
Hydrographic }

LOCALITY

North Coast of Oahu, Hawaii

Waialeale to Kahuku Point

19 32

CHIEF OF PARTY

Hubert A. Paton

U. S. GOVERNMENT PRINTING OFFICE: 1931

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

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OCT 23 1933

REG. NO. 5318

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HYDROGRAPHIC TITLE SHEET

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3.3(a), EXECUTIVE ORDER 12356

The Hydrographic Sheet should be accompanied by this form filled in as completely as possible when the sheet is forwarded to the Office.

Field No. 30

REGISTER NO. 5318

State Hawaiian Islands *small* 3

General locality North Coast of Oahu *large* 1

Locality Waialeale to Kahuku Point *small* 2

Scale 1:5000 Date of survey Aug. 1932 & Aug., 1933

Party Vessel Inshore Hydrographic Survey of Oahu.

Chief of Party Hubert A. Paton, Lieut.

Surveyed by H. A. P.

Protracted by H. A. P.

Soundings penciled by H. A. P.

Soundings in ~~fathoms~~ feet

Plane of reference Mean Lower Low Water

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated July 14th, 1931

Remarks: Surveyed in cooperation with the U. S. Army

DESCRIPTIVE REPORT

to accompany

Sheet #30

NORTH COAST OF OAHU, T. H.
WAIALAE TO KAHUKU POINT

Descriptive Reports accompanying Sheets 12, 13, 32, and 33 and 31 describe in detail the instructions for the survey, the methods and equipment used.

The work was begun in August 1932, but could not be completed then on account of unfavorable weather. The same party was again in this vicinity in August 1933 and the sheet was then completed. The tide gage in 1932 was located at Haleiwa, Waialua Bay. In 1933 the gage was erected at Laiemaloo on the northeast coast. See Sheet #27. It was operated here for only six days.

CHARACTER OF BOTTOM:

Relatively deep trenches leading inshore are clearly illustrated on this sheet. The one in Longitude $158^{\circ}01.4'$ passes close to a rock awash. Another north of Signal Ova is very crooked and has abrupt sides. Coral reefs parallel the shore for most of the sheet. The broad indentation west of Kahuku Point is an exception however as it is open for a distance of one-half mile.

CHANNELS:

A good channel in Longitude $158^{\circ}01.7'$ leads around the west end of a coral reef. A fair anchorage behind the reef can be used by small boats. Landings could be made in favorable weather on the edge of the coral bordering the shore.

The next good channel follows a trench (in Longitude $158^{\circ}01.4'$) passing close to a rock awash. It is best to favor the east side, passing close to a line of breakers. A fair anchorage for small boats can be found behind the coral reef. Landings can be made in all normal weather on the flat coral reef near Signal Dog. The survey party crossed the outer reef in three places near here but it should not be attempted.

Kawela Bay is sheltered but the bottom is foul. Great care should be used in attempting to anchor in here. Boats drawing four feet can enter and by picking the way carefully around coral heads can land troops on a sand beach near Signal Fig. The entrance breaks occasionally in normal weather but not dangerously.

The next channel to the east approaches the shore near Signal Red. It follows the axis of a deep trench. A fair landing can be made at low water on the coral reef behind a small island.

At the northeast side of this shallow indentation a fair channel approaches Signal Mit.

Between Station Kuilima and Signal Rat, there is a narrow entrance in to a sand beach, but a depth of $1\frac{1}{2}$ feet will be found, west of the small island in the middle of the opening. East of the island is a shoal opening, one or two feet deep. The shore can be approached near Signals Up and Roc, but there is little protection here and a landing would be difficult. At Signal Wet however the reef to the northwest affords some protection and landings can be made in normal weather. Round the west end of the reef until Signal Wet bears east by south.

East of Triangulation Station Tip a good entrance, with a least depth of seven feet, leads in close to smooth coral beach. Entrances could best be made at low water, for then the long reefs extending off shore on the east side of the entrance will afford the maximum protection. A fair entrance with depth of four feet can be made between these reefs.

A good entrance approaches the shore in the vicinity of Signal Cot. The opening is broad but has some protection from the northeast trade winds behind a shoal; on the east Landings can be made here on a sand beach.

Near Signal Roc, depths of twelve feet can be carried up to the coral reefs. The small point affords sufficient protection in normal weather to permit landings on the rocks.

JUNCTIONS:

On the west this work joins Sheet #31, and on the east joins Sheet #28. Only a few of the soundings on Sheet #3290 fall within the area covered by this survey, but these check satisfactorily.

H-5319

H-5293

Respectfully submitted,

Hubert A. Paton
Hubert A. Paton,
Lieut., U.S. C. & G.S.

STATISTICS

To Accompany

Sheet #30

Total number of positions	1512
" " " soundings	7716
Statute miles of sounding lines	84.7
Area in square statute miles	2.5

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

APPROVAL OF RECORDS

to accompany

SHEET # 30

The above sheet and records have been inspected and are approved.

Hubert A. Paton
Hubert A. Paton,
Lieut. U.S. C. & G. S.

LAC

October 30, 1933

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5318

Locality Waialeale to Kahuku Point, North Coast of Oahu, Hawaii

Chief of Party: H. A. Paton in 1932-33

Plane of reference is mean lower low water, reading

2.6 ft. on tide staff at Haleiwa

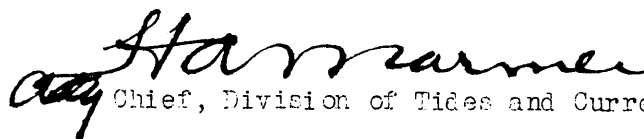
9.8 ft. below B. M. 1

1.9 ft. on tide staff at Laieamaloo

23.3 ft. below B. M. 1

Height of mean higher high water above plane of reference is 1.6 feet
at Haleiwa and 2.2 feet at Laieamaloo.

Condition of records satisfactory except as noted below: It should be noted that in Vols. 1-4 while many of the soundings are shallow and all are considerably less than 10 fathoms, the tide reducers have been entered and checked to the nearest whole foot. According to the instructions in Hydrographic Manual, page 16, the reducers should have been entered to the nearest half foot.


Chief, Division of Tides and Currents

A visual check was made with the boat sheet. Twenty-three positions were checked, five were found to be incorrect and have been changed.

There are two @ ROC on this sheet.

The incorrect symbol for "broken" was inked in by the field party.

The following sounding lines have been verified and inked in:

all of "a" day
 all of "b" day
 1 to 66 "c" day
 105 to 119 "c" day
 120 to 148 "c" day
 75 to 77 "c" "
 21 to 33 "e" "
 40 to 42 "e" "
 60 to 66 "e" "
 130 to 136 "e" "
 1 to 36 "f" "
 60 to 79 "f" "
 101 to 103 "f" "
 109 to 119 "f" "
 146 to 149 "f" "
 195 to 203 "f" "
 240 to 248 "f" "

1 to 8 "g" day
 67 to 73 "g" "
 201 to 205 "g" "
 1 to 3 "h" day
 all of "i" day

G. H. Streeter

Section of Field Records

Report on H-5318

Chief of Party H. G. Paton.

Protracted by E. H. Streeter.

Verified & linked by J. M. Jeske.

Surveyed in 1932 & 1933.

Surveyed by H. G. Paton.

The sounding records were neat legible & complete, except that the tide reducers were entered to the nearest foot instead of half-foot. The sounding records were therefore returned to the Tidal Division for a check of all tide reducers that affected soundings 6 ft or under & the proper ^{corrections} ~~notations~~ were then made on the sheet. Except for a few instances the soundings were correctly plotted as to amount & time interval.

E. H. Streeter made a visual check of the smooth sheet with the boat sheet. He checked 23 positions & found 5 in error. These were corrected. Sounding in the complicated areas of Kawela Bay as well as in the complicated areas west of Kawela Bay & north of the top stations 'Boy' & 'Ant' were verified & linked by Streeter.

The field drafting was well done & legible, except for discrepancies as noted below.

1. Whenever discrepancies appear between topo & hydro sheets in delineation of reefs & breakers, after consultation with Lt. H. G. Paton, Chief of Party, it was decided that delineation as shown on hydro sheet would be used.

2. The hydrographer used a broken line (---) instead of the dotted circle segment (.....) for breakers; also the symbol for rocks awash (***) instead of the one for coral reef (M). The proper corrections were made.

3. There are 2 \odot Roc on this sheet.

4. There were some slight discrepancies in crossings, but due to the nature of the bottom, this was considered plausible. ✓

The overlap with adjoining sheets is sufficient & in fair agreement on the east ✓ (Sheet H5319), but showed a discrepancy in soundings in one area on ^{the} west (Sheet H5293). It was considered advisable after consultation with Lt. Paton, Chief of Party, to retain those on Sheet H5318. Proper corrections ✓ on Sheet H5293 & notations in sounding records were made.

Respectfully submitted.

J. M. Ziskind

Dec 16 1933.

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5318
North Coast of Oahu, Waialea to Kahuku Point, Hawaiian Islands.
Surveyed Aug. 1932 and Aug. 1933
Instructions dated July 14, 1931 (Paton).

Chief of Party - H. A. Paton.
Surveyed by - H. A. Paton.
Protracted and soundings plotted by - H. A. Paton.
Verified by - G. H. Streeter and I. M. Zeskind.
Inked by - I. M. Zeskind.

1. The records conform to the requirements of the Hydrographic Manual except that tide reducers were entered to the nearest whole foot only instead of as provided by instructions in the manual page 16. The necessary corrections were entered by the Division of Tides.
2. The plan and extent of development conform to the general regulations and satisfy the specific instructions. The latter provided for consultation with U. S. Army authorities relative to details desired in the survey and assistance to be furnished by them.
3. Soundings are consistent and in as good agreement as could be expected in this irregular coral bottom.
4. Depth curves can be drawn satisfactorily. Dangerous breakers at the time prevented more detailed examination of several areas now shown on the sheet by broken line curves.
5. Junctions with contemporary survey sheets H. 5319 on the east and H. 5293 on the west are adequate.
6. Comparison:- This sheet represents inshore area not previously surveyed in detail. The overlap with the offshore sheets (H. 3289 and H. 3290 surveys of 1911) is considered adequate, though not strictly conforming to par. 91 and 107 of the regulations. Chart 4110 does not show inshore details in this locality on the present edition.
7. Field drafting in general was satisfactory, except that the proper symbols for "breakers" and "coral reef" were not used in the field drafting. Corrections of these features were made in the office.
8. Recommendations - This sheet (H. 5318 confidential) is the basic survey for inshore details and should supersede all previous information for charting the area represented.

No further surveys are deemed necessary.

9. Reviewed by R. J. Christman, Dec. 22, 1933.

L. O. Colbert
L. O. Colbert,
Chief, Section of Field Records.

J. S. Borden
Chief, Section of Field Work.

Examined and approved:

L. O. Colbert
Chief, Division of Charts.

G. H. Streeter
Chief, Division of H. & T.